

SEQUENCE LISTING

<110> KOREA KUMHO PETROCHEMICAL CO., LTD

<120> NUCLEIC ACID MOLECULES ENCODING ANNEXINS FROM PLANTS

<160> 4

<170> KopatientIn 1.71

<210> 1

<211> 1230

<212> DNA

<213> Arabidopsis thaliana

<400> 1

ccacgcgtcc gaaacactaa aagtagaaga aaaatggcga ctcttaaggt ttctgattct	60
gttcctgctc ctctgatga tgctgagcaa ttgagaaccg cttttgaagg atggggtagc	120
aacgaggact tgatcatatc aatcttggct cacagaagtg ctgaacagag gaaagtcac	180
aggcaagcat accacgaaac ctacggcgaa gaccttctca agactcttga caaggagctc	240
tctaacgatt tcgagagagc tatcttggtg tggactcttg aaccgggtga gcgtgatgct	300
ttattggcta atgaagctac aaaaagatgg acttcaagca accaagttct tatggaagtt	360
gcttgcacaa ggacatcaac gcagctgctt cacgctaggc aagcttacca tgctcgctac	420
aagaagtctc ttgaagagga cgttgctcac cacactaccg gtgacttcag aaagcttttg	480
gtttctcttg ttacctcata caggtacgaa ggagatgaag tgaacatgac attggctaag	540
caagaagcta agctgggtcca tgagaaaatc aaggacaagc actacaatga tgaggatgtt	600

attagaatct tgtccacaag aagcaaagct cagatcaatg ctacttttaa ccgttaccaa	660
gatgatcatg gcgaggaaat tctcaagagt cttgaggaag gagatgatga tgacaagttc	720
cttgcacttt tgaggtaac cattcagtgc ttgacaagac cagagcttta ctttgtcgat	780
gttcttcggt cagcaatcaa caaaactgga actgatgaag gagcactcac tagaattgtg	840
accacaagag ctgagattga cttgaaggtc attggagagg agtaccagcg caggaacagc	900
attcctttgg agaaagctat taccaaagac actcgtggag attacgagaa gatgctcgtc	960
gcacttctcg gtgaagatga tgcttaatca atcaatctc cacagagaaa cataagctgc	1020
tctacagctt ctgttatctc ttatctccct ctctctctct ttgatgagtt tcaaactggt	1080
tgattttggt tctacaaaaa ccttgtttgt ttctgttggtg tgttttgagt tcctaaataa	1140
tgcaaaagag agagacagag agaaccagtg tggctcttta agttatatat atatgaagag	1200
cattggccta aaaaaaaaaa aaaaaaaaaa	1230

<210> 2
 <211> 317
 <212> PRT
 <213> Arabidopsis thaliana

<400> 2
 Met Ala Thr Leu Lys Val Ser Asp Ser Val Pro Ala Pro Ser Asp Asp
 1 5 10 15
 Ala Glu Gln Leu Arg Thr Ala Phe Glu Gly Trp Gly Thr Asn Glu Asp
 20 25 30
 Leu Ile Ile Ser Ile Leu Ala His Arg Ser Ala Glu Gln Arg Lys Val
 35 40 45

Ile Arg Gln Ala Tyr His Glu Thr Tyr Gly Glu Asp Leu Leu Lys Thr
50 55 60

Leu Asp Lys Glu Leu Ser Asn Asp Phe Glu Arg Ala Ile Leu Leu Trp
65 70 75 80

Thr Leu Glu Pro Gly Glu Arg Asp Ala Leu Leu Ala Asn Glu Ala Thr
85 90 95

Lys Arg Trp Thr Ser Ser Asn Gln Val Leu Met Glu Val Ala Cys Thr
100 105 110

Arg Thr Ser Thr Gln Leu Leu His Ala Arg Gln Ala Tyr His Ala Arg
115 120 125

Tyr Lys Lys Ser Leu Glu Glu Asp Val Ala His His Thr Thr Gly Asp
130 135 140

Phe Arg Lys Leu Leu Val Ser Leu Val Thr Ser Tyr Arg Tyr Glu Gly
145 150 155 160

Asp Glu Val Asn Met Thr Leu Ala Lys Gln Glu Ala Lys Leu Val His
165 170 175

Glu Lys Ile Lys Asp Lys His Tyr Asn Asp Glu Asp Val Ile Arg Ile
180 185 190

Leu Ser Thr Arg Ser Lys Ala Gln Ile Asn Ala Thr Phe Asn Arg Tyr
195 200 205

Gln Asp Asp His Gly Glu Glu Ile Leu Lys Ser Leu Glu Glu Gly Asp
210 215 220

Asp Asp Asp Lys Phe Leu Ala Leu Leu Arg Ser Thr Ile Gln Cys Leu
225 230 235 240

Thr Arg Pro Glu Leu Tyr Phe Val Asp Val Leu Arg Ser Ala Ile Asn
245 250 255

Lys Thr Gly Thr Asp Glu Gly Ala Leu Thr Arg Ile Val Thr Thr Arg
260 265 270

Ala Glu Ile Asp Leu Lys Val Ile Gly Glu Glu Tyr Gln Arg Arg Asn
275 280 285

Ser Ile Pro Leu Glu Lys Ala Ile Thr Lys Asp Thr Arg Gly Asp Tyr
290 295 300

Glu Lys Met Leu Val Ala Leu Leu Gly Glu Asp Asp Ala
305 310 315

<210> 3
<211> 1093
<212> DNA
<213> Arabidopsis thaliana

<400> 3
atggctcttc ctctcgagct cgaaagcctc actgaagcca tctcagctgg gatgggaatg 60
ggagttgatg agaatgcatt gataagcaca ctggggaaat cgcaaaagga acatagaaaa 120
ttgttttagga aagcaagcaa aagtttcttt gttgaagatg aggaaagagc ttttgagaaa 180
tgtcatgatc acttcgtcag acacctcaag ctgagttct cccgcttcaa tactgcggtg 240
gtgatgtggg caatgcatcc atgggagaga gatgcaaggt tggatgaagaa agctttgaag 300
aaaggagaag aagcttacia cctcatcggt gaggtctcat gcacacgctc tgctgaggat 360
ctcctcggtg cacgtaaagc ttaccactct ctcttcgacc aatcaatgga agaagacatt 420
gcctctcagc tcacgggtcc tcagcgcaag ttgcttgtgg ggctcgtgag tgcttataga 480
tacgaaggaa ataaggtgaa ggatgattct gccaaatccg atgctaagat tctagccgaa 540

gcagtggcctt cttcaggcga agaagccgtg gagaaggatg aggttgtag gattttgacc	600
acaagaagca aacttcacat ccaacatctc tacaacact ttaacgaaat caaaggctct	660
gatcttcttg ggggtgtatc taagtcttct cttctcaatg aagcattgat ttgtttgctc	720
aaaccggctc tgtatttcag caagattttg gatgcgtctc tgaacaaaga cgcagacaag	780
actaccaaga aatgggtgac aagagtgttc gttacaagag cagatcatag tgatgagatg	840
aatgagatca aagaagagta caataacctt tatggtgaga ctttggctca aagaatccaa	900
gagaagataa aagggaaacta cagagatttc ttgctcacac ttctctccaa atccgattga	960
tttcgtgttg agaaacctat taccaatact tttgggtatt gaagatttat gatttcctt	1020
tttatggttt tatgtttcta attcctaaat ttgcgttttc tcctaaaaaa aaaaaaaaaa	1080
aaaaaaaaaa aaa	1093

<210> 4
 <211> 319
 <212> PRT
 <213> Arabidopsis thaliana

<400> 4
 Met Ala Leu Pro Leu Glu Leu Glu Ser Leu Thr Glu Ala Ile Ser Ala
 1 5 10 15
 Gly Met Gly Met Gly Val Asp Glu Asn Ala Leu Ile Ser Thr Leu Gly
 20 25 30
 Lys Ser Gln Lys Glu His Arg Lys Leu Phe Arg Lys Ala Ser Lys Ser
 35 40 45
 Phe Phe Val Glu Asp Glu Glu Arg Ala Phe Glu Lys Cys His Asp His
 50 55 60

Phe Val Arg His Leu Lys Leu Glu Phe Ser Arg Phe Asn Thr Ala Val
65 70 75 80

Val Met Trp Ala Met His Pro Trp Glu Arg Asp Ala Arg Leu Val Lys
85 90 95

Lys Ala Leu Lys Lys Gly Glu Glu Ala Tyr Asn Leu Ile Val Glu Val
100 105 110

Ser Cys Thr Arg Ser Ala Glu Asp Leu Leu Gly Ala Arg Lys Ala Tyr
115 120 125

His Ser Leu Phe Asp Gln Ser Met Glu Glu Asp Ile Ala Ser His Val
130 135 140

His Gly Pro Gln Arg Lys Leu Leu Val Gly Leu Val Ser Ala Tyr Arg
145 150 155 160

Tyr Glu Gly Asn Lys Val Lys Asp Asp Ser Ala Lys Ser Asp Ala Lys
165 170 175

Ile Leu Ala Glu Ala Val Ala Ser Ser Gly Glu Glu Ala Val Glu Lys
180 185 190

Asp Glu Val Val Arg Ile Leu Thr Thr Arg Ser Lys Leu His Leu Gln
195 200 205

His Leu Tyr Lys His Phe Asn Glu Ile Lys Gly Ser Asp Leu Leu Gly
210 215 220

Gly Val Ser Lys Ser Ser Leu Leu Asn Glu Ala Leu Ile Cys Leu Leu
225 230 235 240

Lys Pro Ala Leu Tyr Phe Ser Lys Ile Leu Asp Ala Ser Leu Asn Lys
245 250 255

Asp Ala Asp Lys Thr Thr Lys Lys Trp Leu Thr Arg Val Phe Val Thr

	260	265	270
Arg	Ala	Asp	His Ser Asp Glu Met Asn Glu Ile Lys Glu Glu Tyr Asn
275		280	285
Asn	Leu	Tyr Gly Glu Thr Leu Ala Gln Arg Ile Gln Glu Lys Ile Lys	
290		295	300
Gly	Asn	Tyr Arg Asp Phe Leu Leu Thr Leu Leu Ser Lys Ser Asp	
305		310	315